

1 Docket FAST-1

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3 DIGITAL VIDEO RECORDER

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6 ABSTRACT OF THE DISCLOSURE

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8 A unique high performance digital video recorder having a number of novel
9 features. The recorder's electronics are all on a unitary printed circuit board.
10 The recorder also requires at least one hard disk drive and audio and video input
11 analog signals (from a source such as video camera or broadcast media) as well
12 as a suitable monitor for receiving output audio and video analog signals. A
13 external time code generator (i.e., VITC digital clock) is also required for
14 synchronization. Also required are various manual control devices (i.e., panel
15 controls) for mode selection. The electronics of the preferred embodiment
16 comprise A-to-D and D-to-A converters, a hard disk interface, a JPEG
17 compression encoder/decoder, a multi-port DRAM and DMA subsystem, a
18 microprocessor with RS-232 and RS-422 access ports, various working memory
19 devices and bus interfaces and a 16-bit stereo digital audio subsystem. Novel
20 features of the preferred embodiment include use of an index table for disk
21 addresses of recorded frames, a multi-port memory controller in the form of a
22 field programmable gate array (FPGA), loop recording using dual channels, and
23 dynamic JPEG compression compensation.
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